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L7: Entry 1 of 1

File: DWPI

Sep 21, 2001

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TITLE: Mobile telephone with background sound recording function has synthesizer to synthesize background sound from transmitter and audio signal

PATENT-ASSIGNEE:

ASSIGNEE

CODE

KOKUSAI DENKI KK

KOKZ

PRIORITY-DATA: 2000JP-0065919 (March 10, 2000)

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APPLICATION-DATA:

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INT-CL (IPC): G10 L 13/00; G10 L 19/00; H04 M 1/00; H04 Q 7/38

ABSTRACTED-PUB-NO: JP2001257745A

BASIC-ABSTRACT:

NOVELTY - A memory (22) stores audio signal along with background sound emitted from a transmitter (16). The recorded background sound is reproduced and a synthesizer synthesizes the reproduced audio signal. The synthesized signal is transmitted as radio signal. A controller controls the transmission of synthesized signal.

USE - For transmitting background sound along with audio signal when using mobile telephone.

ADVANTAGE - Collection and recording of abundant background sounds in memory improves reproduction efficiency of sound.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of mobile telephone with background sound recording function. (Drawing includes non-English language text).

Transmitter 16

Memory 22

CHOSEN-DRAWING: Dwg.1/3

TITLE-TERMS: MOBILE TELEPHONE BACKGROUND SOUND RECORD FUNCTION BACKGROUND SOUND
TRANSMIT AUDIO SIGNAL

DERWENT-CLASS: P86 W01

EPI-CODES: W01-C01D3;

SECONDARY-ACC-NO:

Non-CPI Secondary Accession Numbers: N2001-475585

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PATENT ABSTRACTS OF JAPAN

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INC

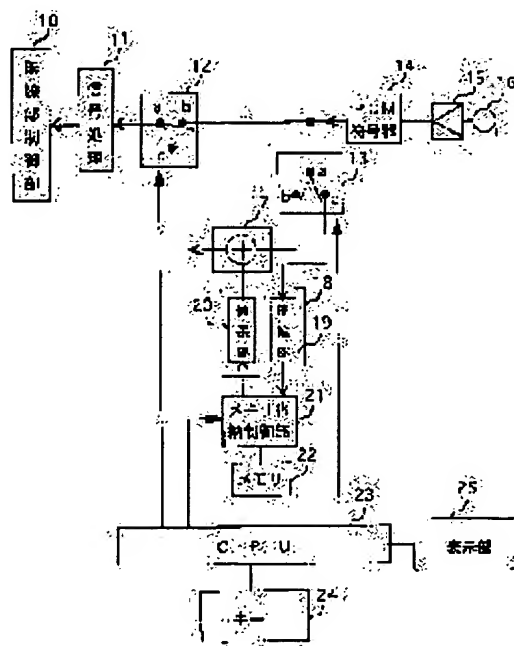
(22)Date of filing : 10.03.2000 (72)Inventor : WAKAMATSU SHUNICHI

(54) MOBILE PHONE WITH BACKGROUND TONE RECORDING REPRODUCING FUNCTION

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a mobile phone that can itself record a background tone for a so-called alibi.

SOLUTION: The mobile phone is provided with a voice coder 18 for recording and reproducing and an adder 17, transmits a background tone during a speech under the control of switches 12 and 13 and records the background tone from a transmitter 16. Thus, a user records it immediately on the spot when encountering a proper background tone and can use it for the background tone.



LEGAL STATUS

[Date of request for examination]

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CLAIMS

[Claim(s)]

[Claim 1] The portable telephone with a background sound sound-recording regenerative function characterized by to have a synthetic means compound the memory which records a voice-grade signal, a sound-recording means record the voice-grade signal from a telephone transmitter in said memory, a playback means reproduce the voice-grade signal recorded by said memory, and the voice-grade signal and the voice-grade signal from a telephone transmitter that were reproduced by this means, and a transmission-control means control to transmit the compounded voice-grade signal as a radio signal.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the portable telephone which can send out a background sound all busy.

[0002]

[Description of the Prior Art] As the so-called telephone with an alibi function which can be sent out as a background sound while talking the signal reproduced from the recorded message sender for telephone prepared in telephone over the telephone, there are some which are shown, for example in JP,63-184447,A or JP,9-326846,A. Moreover, the function to record the contents of a message in memorandum is prepared during the answering machine function using the recorded message sender for telephone installed in the sound recording center in preparation for the case where an electric wave does not reach a portable telephone, sound recording to install a recorded message sender for telephone in a portable telephone, for a vehicle operate, and nothing be to a telephone **** immediately, or a message.

[0003]

[Problem(s) to be Solved by the Invention] However, both the telephones with an alibi function shown in both patents of JP,63-184447,A or JP,9-326846,A are fixed telephones, and recording with sound recording equipment with the recorded signal separate from telephone by which playback sending out is carried out as a background sound is assumed. Therefore, when the suitable sound source for a background sound was found, it did not restrict that it could be recorded immediately, but there was inconvenient [of having brought and recorded sound recording equipment at another opportunity in the location etc.]. Moreover, the recorded message sender for telephone installed in the sound recording center for the answering machine function of a portable telephone is for use in case an electric wave does not arrive, and there is no background sound sending-out function. Moreover, also when a recorded message sender for telephone was installed in a portable telephone, it is for recording a message temporarily and sending out a background sound was not considered.

[0004] The purpose of this invention is to offer the portable telephone with a background sound sound recording regenerative function which enabled it to send out the recorded background sound to a message in piles while making it immediate as [be / the sound recording of a background sound / possible], also when it meets with a sound source suitable as a background sound, as the recorded message sender for telephone was installed and the background sound could be easily recorded from the telephone transmitter.

[0005]

[Means for Solving the Problem] The memory in which this invention records a voice grade signal in order to attain the above-mentioned purpose, A sound recording means to record the voice grade signal from a telephone transmitter in said memory, and a playback means to reproduce the voice grade signal recorded by said memory, The portable telephone with a background sound sound recording regenerative function characterized by having a synthetic means to compound the voice grade signal and

the voice grade signal from a telephone transmitter which were reproduced by this means, and a transmission-control means to control to transmit the compounded voice grade signal as a radio signal is offered.

[0006]

[Embodiment of the Invention] Drawing 1 is the block diagram showing the example of a configuration of the portable telephone with a background sound recording regenerative function of this invention. Only a block required for sending out of the sound recording of a background sound and a background sound is shown in drawing 1, and each block of the antenna used for the message of the usual portable telephone, a radio receiver-transmitter, an earphone, a PCM decoder, etc. is omitted. The wireless section control section 10 performs control for changing and sending out to the radio frequency which was able to define the digital signal of voice grade. The sound signal processing encoder 11 carries out compression coding of the digital signal of voice grade at the signal suitable for a wireless system. A switch 12 is a switch which switches the transmission made together with the usual transmission and a background sound, and is a switch which chooses whether a switch 13 records the voice grade signal from a telephone transmitter 16. It is inputted from a telephone transmitter 16, is amplified with amplifier 15, and encodes with the PCM encoder 14, and the analog signal of voice grade turns into a digital signal of PCM. The output of the PCM encoder 14 is connected to switches 12 and 13. The terminal b of a switch 13 is connected to an adder 17, and Terminal c is connected to the compression zone 19 of a voice coder 18. A voice coder 18 lessens the amount of data which compresses a PCM digital signal and is memorized by the compression zone 19, and the memory storing control section 21 stores the data in memory 22. Moreover, the memory storing control section 21 reads the data of memory 22, elongates the data compressed in the elongation section 20 of a voice coder 18, and inputs them into an adder 17 as a PCM digital signal of a basis. In an adder 17, the PCM digital signal from a telephone transmitter 16 and the PCM digital signal from the elongation section 20 which is a background sound are added, and it sends to a switch 12. CPU23 supervises a key 24, and it controls switches 12 and 13 and the memory storing control section 21 while it identifies whether the key was pressed.

[0007] Hereafter, actuation is explained. A background sound is sent out and twisted, in the usual message, CPU23 connects Terminal a and Terminal b of a switch 12 (the continuous line of drawing shows), and a switch 13 separates Terminal a and Terminal b (the continuous line of drawing shows). In this condition, a user's voice is inputted from a telephone transmitter 16, and it is amplified with amplifier 15, and becomes a PCM digital signal with the PCM encoder 14. This digital signal is compressed into the digital signal which was suitable for the wireless system via the contacts a and b of a switch 12 with the sound signal processing encoder 11, and is sent out from a radio channel by control of the wireless section control section 10.

[0008] If a user wants to send out a background sound, a user will input a background sound sending-out demand from a key 24. As a background sound sending-out demand, it carries out in the combination of the function key in a key 24, and a numerical keypad etc. For example, "1" is inputted as a function key. CPU23 is always scanning the input from a key 24, and if it detects that the key input of a background sound sending-out demand was performed, it will display a background sound selection screen on a display 25. When the background sound data of plurality [screen / background sound selection / memory / 22] are stored, the background sound to be used makes it specify it as a user which background sound it is. An example of a background sound selection screen is shown in drawing 2. By a diagram, the case where there are a sound of a wave, voice of a bird, a prayer of a music maiden, and a sound in a jazz teahouse is shown as a background sound. Now, supposing a user chooses the sound of a wave as a background sound, the number "1" of the background sound of the sound of a wave will be inputted from a key 24. If the background sound to be used is chosen, CPU23 will separate connection of the contacts a and b of a switch 12, and will connect Contacts a and c (the dotted line of drawing shows). Moreover, a switch 13 also connects Contacts a and b (the dotted line of drawing shows). The data of the background sound which the user who CPU23 drives the memory storing control section 21, and is recorded in memory 22 chose are read at coincidence, and by the elongation section 20 of a voice

coder 18, the background sound compressed and stored is elongated to the PCM digital signal of a basis, and it adds to an adder 17.

[0009] In this condition, if a user inputs a sound signal from a telephone transmitter 16, it will be amplified with an amplifier 15, a PCM digital signal will encode with the PCM encoder 14, and that voice will join an adder 17 via the contacts a and b of a switch 13. In an adder 17, the voice (PCM digital signal) of the user from the background sound (PCM digital signal) and the PCM encoder 14 from the elongation section 20 is added, and it joins the sound signal processing encoder 11 via the contacts c and a of a switch 12, and the PCM digital signal of a user's voice accompanied by a background sound is compressed into the digital signal suitable for a wireless system, and is sent out from a radio channel by the wireless section control section 10. Thus, the message accompanied by a background sound is attained.

[0010] Next, the case where a background sound is recorded from a telephone transmitter 16 is explained. If a user thinks that he will record a background sound, he will perform a background sound sound recording demand from a key 24. As a background sound sound recording demand, it can carry out in the combination of a function key and a numerical keypad etc. For example, it carries out in inputting a function key and a figure "2." CPU23 will display a background sound sound recording screen on a display 25, if it detects that the background sound demand was performed from the key 24. The sound recording number and name of a background sound which have already been recorded with the area number (it is the same as the sound recording number at the time of playback) which can record the background sound of memory 22 are displayed on a background sound sound recording screen. A user inputs the sound recording area number and name of a background sound to record. For example, if "NAMINOOTO" etc. is inputted when recording the sound of a wave, it is convenient when reproducing. Although a new number can be chosen and a name can be inputted when recording newly, when there is no empty memory area, the sound recording number of the area already recorded will be chosen, and new sound recording will be performed in the area already recorded. If the sound recording area number and name of a background sound are inputted, CPU23 will perform the display under sound recording to a display 25, will connect the contacts a and c of a switch 13, will drive the memory storing control section 21, and will enable storing of the output data of the compression zone 19 of a voice coder 18 at memory 22. The signal of voice grade inputted from a telephone transmitter 16 in this condition is amplified with an amplifier 15, and is encoded by the PCM digital signal with the PCM encoder 14. This PCM digital signal will be compressed into the data which are the compression zone 19 of a voice coder 18, and are stored in memory via the contacts a and c of a switch 13, and will be memorized in the area of the sound recording area number which the user of memory 22 chose by the memory storing control section 21.

[0011] In explanation of drawing 1, switches 12 and 13 are used for the change of the usual message and the message which applied the background sound, and the sound recording of a background sound. However, the configuration which does not use these switches is also possible. The connection configuration when not using switches 12 and 13 is shown in drawing 3. In drawing 3, the output of the PCM encoder 14 is applied to the compression zone 19 of the direct adder 17 and a voice coder 18, and the output of an adder 17 is connected to the direct sound voice signal-processing encoder 11. Also in the case of the usual message which does not apply a background sound, it talks over the telephone via an adder 17, but since it does not carry out that the memory storing control section 21 reads the data of a background sound from memory 22 in a message and there is usually no output of the elongation section 20 of a voice coder 18, the output of an adder 17 is only an output of the PCM encoder 14. If it chooses that a user applies a background sound to a message, the memory storing control section 21 will read the data of a background sound from memory 22, and will output them from the elongation section 20 of a voice coder 18, and the output of an adder 17 will become the signal with which the background sound joined the output of the PCM encoder 14. Also when recording a background sound, the output of the PCM encoder 14 has always joined the compression zone 19 of a voice coder 18, but only when a user chooses sound recording, the memory storing control section 21 stores the compressed data in memory 21. Thus, the same control is possible even if it does not use switches 12 and 13 by control of the

memory storing control section 21.

[0012]

[Effect of the Invention] There is the following effectiveness by this invention.

- (1) The message which added the background sound in the cellular phone is possible.
- (2) Since it can record immediately when it meets with the sound source suitable for a background sound, abundant background sounds can be collected.
- (3) Since a portable telephone can record the background sound in the actually experienced location, sending out of a background sound using the actually performed data is possible, and the function as telephone with alibi is high.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the block diagram showing the example of a configuration of the portable telephone with a background sound sound recording regenerative function of this invention.

[Drawing 2] It is an example of a background sound selection screen.

[Drawing 3] It is a block diagram when not using the changeover switch of the telephone with a background sound sound recording regenerative function of this invention.

[Description of Notations]

- 10 Wireless Section Control Section
- 11 Sound Signal Processing Encoder
- 12 13 Switch
- 14 PCM Encoder
- 15 Amplifier
- 16 Telephone Transmitter
- 17 Adder
- 18 Voice Coder
- 19 Compression Zone
- 20 Elongation Section
- 21 Memory Storing Control Section
- 22 Memory
- 23 CPU
- 24 Key
- 25 Display

[Translation done.]

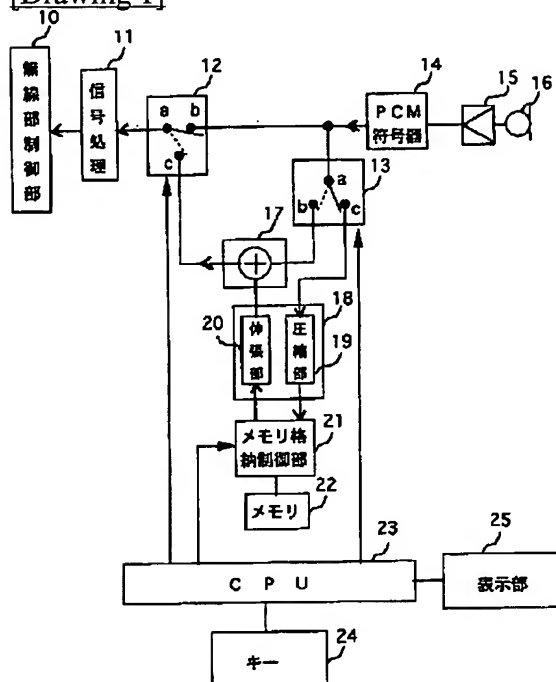
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DRAWINGS

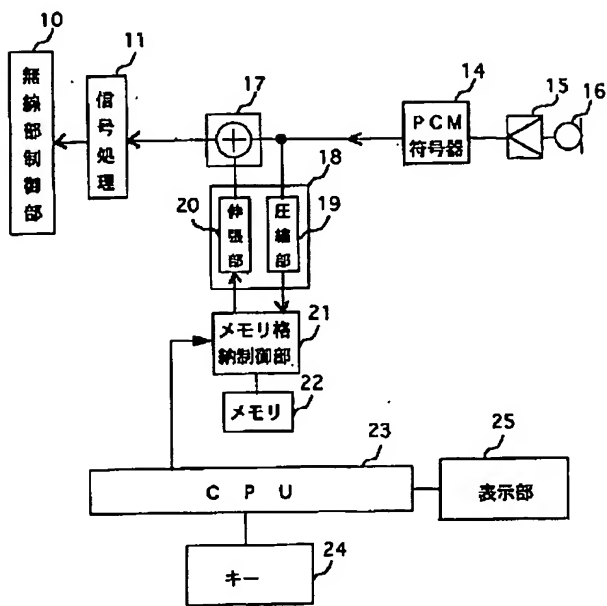
[Drawing 1]



[Drawing 2]

No	名称
1	ナミノオト
2	トリノコエ
3	オトメノイノリ
4	ジャズキッサ

[Drawing 3]



[Translation done.]